(b) Regarding the works/letters/manuscripts written by Mahatama Gandhi which are put on acution/sale, a Committee of eminent Gandhians has been constituted to examine and make recommendations, as and when the occasion arises.

Diaster warning system for Tsunami and Cyclones

3535. SHRI NANDAMURI HARIKRISHNA : Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that IIT, Delhi, had developed a low-cost disaster warning system for Tsunamis and cyclones;

(b) if so, the details thereof; and

(c) in what manner the above system is different from the existing warning system?

THE MINISTER OF STATE OF THE MINISTRY OF EARTH SCIENCES (SHRI PRITHVIRAJ CHAVAN) : (a) and (b) IIT, Delhi has attempted to develop a low-cost ocean information dissemination prototype so as to communicate information on potential fishing zones and ocean state forecasts generated by the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad of the Ministry of Earth Sciences (MoES). The prototype can also disseminate warnings related to coastal hazards such as tsunamis and cyclones by receiving due information from operational warning centres such as India Meterological Department (IMD) and INCOIS. This project is funded by INCOIS/MoES.

(c) The current prototype is different from the existing system is terms of its easy deployment/maintenance; low power consumption with multi-power sources (utility power and solar power); redundant connectivity to multiple networks; automatic updation of information from the server; built with off- the shelf hardware and open source software tools etc. It is now planned to test the developed prototype alongwide the existing system of warning dissemination at INCOIS for its detailed performance evaluation.

Purification of Sea Water

†3536. DR. PRABHA THAKUR : Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether sea water can purified to be turned into potable water;

(b) if so, the details of coast involved in process of purifying one litre of sea water to turn into potable water;

(c) whether there is any place in India where sea water is being turned into potable drinking water, if so, the name of the place; and

(d) if not, the reasons therefor?

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†Original notice of the question was received in Hindi.

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI PRITHVIRAJ CHAVAN) : (a) Yes, Sir.

(b) The National Institute of Ocean Technology (NIOT) an autonomous body of the Ministry of Earth Sciences has indigenously designed developed and demonstrated the desalination technology for conversion of sea water into potable water based on Low Temperature Thermal Desalination System (LTTD). The LTTD is a process under which the warm surface sea water is flash evaporated at low pressure and the vapour is condensed with cold deep sea water. The estimated cost of production of Kavaratti Plant was 10 paise per litre.

(c) Yes, Sir. A LTTD plant with a capacity of 1 lakh litre per day production of fresh water was developed and installed in May 2005, at Kavaratti, Lakshadweep Island which is a land based plant. Another plant of 1.0 lakh liter per day capacity was set-up at North Chennai Thermal Power Station in Chennai in May 2009.

(d) Does not arise.

Inflow in Himalayan Rivers

3537. SHRI PRAKASH JAVADEKAR : Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether Government has taken any exercise to monitor the inflow in Himalayan rivers to determine whether there is any reduction in the volume of water due to the impact of global warming;

(b) whether any detailed survey has been carried out about the shrinking of the Himalayan glaciers, the main source of major rivers;

(c) if so, the detals thereof; and

(d) if not, whether Government has any plan to carry out the survey?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI PRITHVIRAJ CHAVAN): (a) to (c) River flow from glacierzed areas in the Himalaya is influenced both by annual variations in precipitation (snow/rain) and temperature, and by longer term changes in glacier ice. High specific discharge from ice melt often dominates flow for considerable distances downstream, particularly where other sources of runoff are limited, given the difference in climate between the drier western and monsoonal eastern ends of the region. The Himalayan eco-system (snow and ice) supports three major river systems, Indus, Ganges and Brahmaputra & Barak having an average annual stream flow of 7.31 Billion cubic meters (BCM), 525.02BCM and 585.60BCM respectively. Preliminary studies have been taken up in this regard by the Central Water Commission (CWC) and National Institute of Hydrology (NIH), Roorkee.

Glaciers, in general, including the Himalayan glaciers, are receding. Geological Survey of India (GSI) has been conducting studies on the recession of the Gangotri glacier since 1935 or so and this glacier is one of the best documented glaciers for its recession in Indian Himalayas. In the eastern Himalayas, which sit in the Ganga basin, have reported glacier melts.